

WHAT IS CLAIMED IS:

1 1. A rotary disk storage device comprising:
2 a housing;
3 a rotary disk recording medium having a recording area, at least a
4 partial area of the recording medium being formed of an electrically conductive material;
5 an actuator suspension assembly to which a head/slider is attached
6 and which includes a voice coil motor, said actuator suspension assembly being adapted to
7 operate in such a manner that said head/slider moves between a retracted position and said
8 recording area centrally about a pivot shaft supported by said housing;
9 an eddy-current magnet disposed in proximity to a surface of the
10 area of said rotary disk recording medium which area is formed of the electrically
11 conductive material, said eddy-current magnet having a magnetic pole opposed to a
12 surface of said rotary disk recording medium; and
13 a movable structure which releases said actuator suspension
14 assembly restrained in said retracted position, said release being carried out by utilizing a
15 force of an eddy current exerted on said eddy-current magnet which eddy current is
16 produced in said rotary disk recording medium by said magnetic pole.

1 2. The rotary disk storage device according to claim 1, further
2 comprising a ramp, wherein said actuator suspension assembly retracts while positioning
3 said head/slider to said ramp.

1 3. The rotary disk storage device according to claim 1, wherein said
2 rotary disc recording medium has a landing area, and said actuator suspension assembly
3 retracts said head/slider to said landing area.

1 4. The rotary disk storage device according to claim 1, wherein said
2 movable structure is a latch member adapted to turn between a restraint range and a
3 release range centrally about a latch shaft supported by said housing.

1 5. The rotary disk storage device according to claim 4, further
2 comprising a biasing structure which, when said rotary disk recording medium is rotating
3 at a predetermined number of revolutions or less or is at a standstill, imparts a biasing
4 force to said latch member to turn the latch member to said restraint range.

1 6. The rotary disk storage device according to claim 5, wherein said
2 biasing structure includes a stator magnet of said voice coil motor and said eddy-current
3 magnet.

1 7. The rotary disk storage device according to claim 5, wherein said
2 latch member has a magnetic portion or a magnet, and said biasing structure includes said
3 magnetic portion or said magnet and a stator magnet of said voice coil motor.

1 8. The rotary disk storage device according to claim 5, further
2 comprising a spring for engagement with said latch member, wherein said biasing
3 structure includes said spring.

1 9. The rotary disk storage device according to claim 4, wherein the
2 latch member has a latching portion for retraining said actuator suspension assembly.

1 10. The rotary disk storage device according to claim 4, wherein said
2 latch member is adapted to turn between the restraint range and the release range so that
3 said eddy-current magnet moves in parallel with the surface of said rotary disk recording
4 medium.

1 11. The rotary disk storage device according to claim 4, wherein said
2 latch member is adapted to turn between the restraint range and the release range so that
3 said eddy-current magnet moves substantially perpendicularly to the surface of said rotary
4 disk recording medium.

1 12. The rotary disk storage device according to claim 4, wherein said
2 rotary disk recording medium has a non-recording area and, while said latch member turns
3 between the restraint range and the release range, the magnetic pole of said eddy-current
4 magnet is substantially opposed to a surface of said non-recording area.

1 13. The rotary disk storage device according to claim 12, wherein said
2 non-recording area is located near an outer circumference of said rotary disk recording
3 medium.

1 14. A rotary disk storage device comprising:
2 means for accommodating components of the rotary disk storage

3 device;
4 means for storing data, said data storing means being supported
5 rotatably by said components' accommodating means and having a recording area, at least
6 a partial area of said data storing means being formed of an electrically conductive
7 material;
8 means for moving a head/slider between a retracted position and
9 said recording area, said head/slider reading out data from said data storing means;
10 means for restraining said head/slider moving means at said
11 retracted position;
12 means for supplying a magnetic flux to a surface of said data storing
13 means, said magnetic flux supply means being disposed in proximity to the surface of the
14 area of said data storing means which area is formed of the electrically conductive
15 material; and
16 means for releasing said head/slider moving means from the
17 restrained state by utilizing a force of an eddy current exerted on said magnetic flux supply
18 means which eddy current is produced in said data storing means by said magnetic flux
19 upon rotation of the data storing means, said restraint releasing means holding said
20 magnetic flux supply means.

1 15. A method for releasing an actuator suspension assembly restrained
2 at a retracted position in a rotary disk storage device, said rotary disk storage device
3 having a rotary disk recording medium which includes at least a partial area formed of an
4 electrically conductive material and an actuator suspension assembly which includes a
5 head/slider, said method comprising:
6 rotating said rotary disk recording medium and allowing an eddy
7 current to be produced in the rotary disk recording medium by a magnetic pole of an eddy-
8 current magnet, said eddy-current magnet being disposed at a position close to the rotary
9 disk recording medium in such a manner that the magnetic pole is opposed to a surface of
10 said area formed of the electrically conductive material;
11 imparting a force based on said eddy current to said eddy-current
12 magnet; and
13 releasing said actuator suspension assembly from the restrained
14 state by utilizing the force imparted to said eddy-current magnet.

1 16. The method according to claim 15, wherein the force based on said
2 eddy current and imparted to said eddy-current magnet acts in a direction parallel to a
3 surface of said rotary disk recording medium.

1 17. The method according to claim 15, wherein the force based on said
2 eddy current and imparted to said eddy-current magnet acts in a direction substantially
3 perpendicular to a surface of said rotary disk recording medium.